We claim:

1. In a video coder for coding video images in a block format, a method for improving compression of the video images comprising:

for a macroblock in a video frame, determining whether texture values for the color values of the macroblock are coded and setting the coded block parameters corresponding to the colors to indicate whether or not the texture values are coded;

forming a combined parameter representing all of the coded block parameters for the macroblock;

determining a single variable length code for the combined parameter of the macroblock; and

repeating the above-steps for macroblocks in the video image.

2. The method of claim 1 wherein:

the texture values are chrominace values U and V, and luminance values Y,

the macroblock includes one block for U, one block for V and four blocks for Y;

and the coded block parameters include one bit each for U and V indicating whether the corresponding U and V blocks are coded, and four bits for Y indicating whether the four corresponding Y blocks are coded.

3. The method of claim 1 wherein the forming step includes forming a combined parameter representing all of the coded block parameters and a parameter representing macroblock type for the macroblock.

4. The method of claim 1 further including:

selecting a predictor for the coded block parameters; and

computing an exclusive OR between the predictor and the coded block parameters to compute predicted coded block parameters, the predicted coded block parameters forming at least a part of the combined coded block parameter for the macroblock;

wherein the step of determining the single variable length code includes looking up the combined coded block parameter in a variable length coding table to find the single variable length code for the combined coded block parameter.

5. The method of claim 4 wherein

the texture values are chrominace values U and V, and luminance values Y,

the macroblock includes one block for U, one block for V and four blocks for Y;

and the coded block parameters include one bit each for U and V indicating whether the corresponding U and V blocks are coded, and four bits for Y indicating whether the four corresponding Y blocks are coded; and

the step of selecting a predictor includes computing a predictor block for each of the four Y blocks.

6. The method of claim 4 wherein

the texture values are chrominace values U and V, and luminance values Y,

the macroblock includes one block for U, one block for V and four blocks for Y;

and the coded block parameters include one bit each for U and V indicating whether the corresponding U and V blocks are coded, and four bits for Y indicating whether the four corresponding Y blocks are coded; and

the step of selecting a predictor includes computing a predictor block for the U and V blocks.

7. The method of claim 4 wherein the step of selecting a predictor includes:

computing a horizontal gradient of coded block parameters for neighboring blocks, positioned adjacent each other in a horizontal direction;

computing a vertical gradient of coded block parameters for neighboring blocks, positioned adjacent each other in a vertical direction;

determining whether the gradient is smaller in the vertical or the horizontal direction; and

selecting the neighboring block in the direction of the smaller gradient as the predictor for the block.

8. The method of claim 1 further including:

selecting a predictor for at least a first coded block parameter; and

computing a predicted value representing a change in value between the predictor and the first coded block parameter, wherein the combined parameter includes the predicted value.

9. The method of claim 1 wherein the video image comprises two or more video object planes, each being divided into macroblocks, and the steps of claim 1 are repeated for the macroblocks of each of the video object planes.

10. A computer readable medium on which is stored instructions for performing the steps of claim 1.

11. In a video decoder, a method for decoding a macroblock comprising:

receiving a variable length code representing a combined coded block parameter for the macroblock representing all coded block parameters for the macroblock;

looking up the variable length code in a variable length coding table to find a corresponding entry for the variable length code representing the combined coded block parameter; and

using flags encoded in the combined coded block parameter to determine whether texture is coded for blocks corresponding to each flag.

12. The method of claim 11 wherein a first variable length coding table is used for macroblocks in intra frames in an image sequence, and a second variable length coding table is used for macroblocks in predicted image frames.

13. The method of claim 12 wherein the first variable length coding table stores entries for variable length codes, each representing a combined macroblock parameter that includes coded block patterns for chrominance and luminance; and

wherein the second variable length coding table stores entries for variable length codes, each representing a combined macroblock parameter that includes coded block patterns for chrominance and luminance.

14. The method of claim 13 wherein the combined macroblock parameters in the first table also include a parameter representing macroblock type.

15. The method of claim 11 wherein at least one of the coded block parameters in the combined coded block parameters is a spatially predicted coded block parameter; and further including:

after looking up the variable length code in the variable length coding table,

computing a predictor block among neighboring blocks of a block corresponding to the spatially predicted coded block parameter; and

computing a coded block parameter value for the block from the spatially predicted coded block parameter and a coded block parameter for the predictor block.

16. The method of claim 15 wherein the step of computing the predictor block includes:

computing spatial gradients of coded block parameter between pairs of neighboring blocks; and

selecting a block in a direction of a lowest spatial gradient as the predictor block.

17. The method of claim 16 wherein computing the coded block parameter for the block includes:

computing the exclusive OR of the spatially predicted coded block parameter and the coded block parameter for the predictor block.

18. The method of claim 11 wherein the combined coded block parameter represents coded block parameters for each luminance block and each chrominance block in the macroblock.

19. A computer readable medium on which is stored instructions for performing the method of claim 11.

20. A computer readable medium on which is stored an encoded video frame sequence comprising:

intra-frame macroblocks, each intra-frame coded macroblock including a variable length code representing a combined parameter including a coded block parameter for each luminance block and each chrominance block in the macroblock;

predicted frame macroblocks, each predicted frame coded macroblock including a variable length code representing a combined parameter including a coded block parameter for each luminance block and each chrominance block in the macroblock;

wherein at least one of the coded block parameters is spatially predicted from a neighboring block before being formed into the combined coded block parameter for a corresponding macroblock.